

Amendment to the Claims

In the Claims:

Claims 1-31. (Canceled)

Claim 32. (Currently amended) A non-human transgenic mammal that comprises a transgene including an altered non-mammalian ~~anti-microbial~~ anti-staphylococcal gene, which altered non-mammalian ~~anti-microbial~~ anti-staphylococcal differs from a naturally-occurring non-mammalian ~~anti-microbial~~ anti-staphylococcal gene in that the altered non-mammalian ~~anti-microbial~~ anti-staphylococcal gene contains one or more sequences necessary and sufficient for expression of an active secreted non-mammalian ~~anti-microbial~~ anti-staphylococcal protein by mammalian cells and tissues.

Claim 33. (Currently amended) The non-human transgenic mammal of claim 32 wherein the alteration to the non-mammalian ~~anti-microbial~~ anti-staphylococcal transgene is an alteration that disrupts one or more mammalian post-translational processing events.

B/ Claim 34. (Currently amended) The non-human transgenic mammal of claim 32 wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal transgene comprises in operable association:

a eukaryotic mammary specific promoter located 5' to the transgene;

a eukaryotic start codon located 3' to the eukaryotic promoter;

a Kozak expression start site consensus sequence located 3' to the eukaryotic promoter and including the eukaryotic start codon;

a eukaryotic secretion signal located 3' to the Kozak expression start site; and

a nucleic acid sequence located 3' to the secretion signal, the nucleic acid sequence encoding the non-mammalian ~~anti-microbial~~ anti-staphylococcal polypeptide from which at least one glycosylation site in the non-mammalian ~~anti-microbial~~ anti-staphylococcal

polypeptide is removed, wherein the operable association polypeptide results in expression of the non-mammalian ~~anti-microbial~~ anti-staphylococcal polypeptide in mammary cells and tissues.

Claim 35. (Currently amended) The non-human transgenic mammal of claim 37 wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal transgene encoding the non-mammalian ~~anti-microbial~~ anti-staphylococcal protein is modified to comprise in operable association:

a eukaryotic mammary specific promoter located 5' to the transgene;

a eukaryotic start codon located 3' to the eukaryotic promoter;

a Kozak expression start site consensus sequence located 3' to the eukaryotic promoter and including the eukaryotic start codon; and;

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a nucleic acid sequence located 3' to the Kozak expression start site, the nucleic acid sequence encoding the non-mammalian ~~anti-microbial~~ anti-staphylococcal polypeptide from which at least one glycosylation site in the non-mammalian ~~anti-microbial~~ anti-staphylococcal polypeptide is removed, wherein the operable association results in expression of the non-mammalian ~~anti-microbial~~ anti-staphylococcal polypeptide in mammary cells and tissues.

Claim 36. (Currently amended) The non-human transgenic mammal of claim 32 or 33 wherein the altered non-mammalian ~~anti-microbial~~ anti-staphylococcal transgene is inserted into a bovine β -lactoglobulin expression cassette which comprises:

a nucleic acid sequence encoding 4.2 kilobase pairs of the 5'-regulatory region of the bovine β -lactoglobulin gene;

a nucleic acid sequence encoding exons 5, 6, and 7 of the bovine β -lactoglobulin gene;
and

a nucleic acid sequence encoding 2.0 kilobases of 3'-untranslated region of the bovine β -lactoglobulin gene,


wherein in the β -lactoglobulin expression cassette the 5'-regulatory region of the bovine- β -lactoglobulin gene is located upstream of exons 5, 6, and 7, and exons 5, 6, and 7 are located

upstream of the 3'untranslated region, wherein the insertion of the altered transgene into the β -lactoglobulin expression cassette results in expression of the transgene in mammary cells and tissues.

Claim 37. (Previously added) The non-human transgenic mammal of claim 27 or 32, wherein the alteration to the lysostaphin transgene is an alteration that adds or removes one or more mammalian post-translational processing sites.

Claim 38. (Previously added) The non-human transgenic mammal of claim 28 or 33, wherein the alteration comprises a disruption of at least one glycosylation site.

Claim 39. (Previously added) The non-human transgenic mammal of claim 27 or 32, wherein the mammalian cells and tissues comprise mammary cells and tissues.

 Claim 40. (Previously added) The non-human transgenic mammal of claim 39, wherein the mammary cells and tissues comprise mammary secretory cells and tissues.

Claim 41. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal gene encodes an anti-viral peptide or protein.

Claim 42. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal gene encodes a microbial peptide or protein.

Claim 43. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal gene encodes a prokaryotic peptide or protein.

Claim 44. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal gene encodes a bacterial peptide or protein.

Claim 45. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal is selected from the group consisting of nisins, muramidases, glucoasminidases, endopeptidases, and colicins.

Claim 46. (Currently amended) The non-human transgenic mammal of claim 32, wherein the non-mammalian ~~anti-microbial~~ anti-staphylococcal is an anti-staphylococcal.

Claim 47. (Previously added) The non-human transgenic mammal of claim 46, wherein the anti-staphylococcal is selected from the group consisting of β -lytic protease, lysostaphin, α -lytic protease, lyt-M, at 1ALE-1, and zooA.

Claim 48. (Previously added) The non-human transgenic mammal of claim 46, wherein the anti-staphylococcal is β -lytic protease.

Claim 49. (Previously added) The non-human transgenic mammal of claim 46, wherein the anti-staphylococcal is lysostaphin.

Claims 50-64. (Canceled)